Fisheries Education in India

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In India, education in all agricultural sciences, including fisheries, is the responsibility of agricultural universities in their respective states. The establishment of these universities started only in the early sixties, and before this, no Indian university was offering higher level fisheries education. The central and state governments had to recruit graduates in any of the basic sciences for manning the managerial posts in the fisheries sector. But since such recruits had no knowledge of the multidisciplinary field of fisheries, the governments resorted to establishing a series of in-service training centers at various levels.

The Government of India started in 1945 two All India Fisheries Training courses, one at Barrackpore and the other at Madras. While the latter, dealing mainly with marine fisheries, has since been discontinued, the former, dealing with inland fisheries, is still being continued under a different setup. The polytechnics in Tamilnadu, Kerala and Andhra Pradesh were also conducting a diploma level training course in fishery technology and navigation, but at present only the one in Tamilnadu continues to offer it.

Upon the recommendation of the Fisheries Education Committee set up in 1959, the Government of India established two national level institutes, namely the Central Institute of Fisheries Education (CIFE) at Bombay in 1961 and the Central Institute of Fisheries, Nautical and Engineering Training (CIFNET) at Cochin in 1963. The Marine Products Processing Training Centre (MPPTC) was also established in 1963 at Mangalore under Indo-Japanese collaboration for training fish processing technologists for the newly emerging fish processing industry.

The introduction of mechanized fishing in our coastal waters in the fifties led to the establishment, in all the maritime states, of fishermen training centers for mechanized fishing. Most of the state governments also established a series of in-service centers for their technical personnel at various levels.

Except for those of CIFNET, MPPTC, the polytechnics and the fishermen training centers, all other courses were of the in-service type. It was only in 1969 that the University of Agricultural Sciences of Karnataka took the bold step of starting professional fisheries education at the university level in the country by establishing its College of Fisheries at Mangalore. The success of this institution has already led to the creation of five more fisheries colleges under agricultural universities; some more are in the offing.

Present Facilities and Possibilities for Development

Even though the existing in-service training facilities are adequate for present needs, many of them need to be modernized and diversified to cope with the country's fast developing fishing industry.

Fishermen training

The training imparted in fishermen training centers along the coast mainly relates to bottom trawling for prawns in the sea and leaves out other methods of fishing that are possible with the same craft. Fishermen must also be trained in diversified methods of mechanized fishing, such as midwater trawling, gill netting, long lining, trolling, pole and line fishing, etc. A diversification seminar was held at the College of Fisheries, Mangalore in 1976. As a result, many fishermen in Karnataka who used to engage only in bottom trawling took to purse seining. The scope of training in these centers should likewise be expanded to include coastal aquaculture techniques.

At present, training centers for inland fishing can be found only in Karnataka and Tamilnadu. Other centers should be established in other states also and their scope should include freshwater fish culture techniques and their integration with agriculture and livestock practices, in the interest of integrated rural development. This need is made even more urgent by the changing socioeconomic pattern of rural areas on account of migration, marginalization and reduced employment opportunities, which are in turn caused by progressively advancing mechanization and automation of agricultural, animal husbandry and fisheries industries.

Coastal and inland aquaculture could provide productive employment for rural fishermen, combined with artisanal fisheries, agriculture and livestock practices. Techniques for such integrated systems are being developed in different parts of the country and should become available for transfer to fishermen in the very near future.

It is necessary to upgrade and expand the scope of training in the CIFNET. The present facility for providing "seatime" to the trainees after their institutional training, to enable them to qualify for the certificate of competency examination, is thoroughly inadequate.

Training of lower and middle level technicians

The present facilities for this kind of training are fairly comprehensive and adequate. The extension education offered at the Central Fisheries Extension Training Centre, Hyderabad is mainly oriented towards inland aquaculture. This could include mariculture and also other facets of the fishery industry, such as its role in integrated rural development.

Higher Education

In view of the increasing availability of fisheries graduates in the country, the various in-service training programs, including the one at CIFE, may diminish in the next few years. Ideally, for the sake of parity of standards, the various fisheries colleges in the country should follow the model syllabus recommended by the ICAR. Further, any postgraduate program in fishery science must be made open only to fisheries graduates. However, in certain areas, other graduates could also be admitted, after an extra year or so of remedial courses in fishery science.

Reorganization of Fisheries Education Programs

It is high time that the country thinks of evolving a regular national policy on fisheries education. As mentioned earlier, education in the agricultural sciences, including fisheries, is the responsibility of agricultural universities. Therefore, fishery education at all levels may be entrusted to the agricultural universities including higher level training of research scientists, teachers, managerial and senior technical personnel.

The present training arrangements for middle and lower level technicians are mostly of an *ad hoc* nature. It may be worthwhile to establish separate fishery polytechnics under the agricultural universities to answer such short-term and long-term requirements. The fishermen training centers, which are now being run by state governments, could then be merged with the polytechnics. Likewise, there will be no need for the central or state governments to maintain any staff training establishments dealing with development, extension, etc. What is now being carried out by such training centers, including orientation and refresher courses and training of specialist personnel may be wholly entrusted to the agricultural universities.

National Fisheries University

The establishment of a National Fisheries University has been accepted in principle by the Indian Council of Agricultural Research. The details are yet to be worked out and the concept has been studied by different people with different perspectives. Such a National University should have a loose linkage with all fisheries institutes, both under the central and state governments. This would certainly serve to standardize fisheries education in the country. •

For more information on some of the fisheries programs and courses available in India at present, refer to the listing on p. 18-29.

Fisheries Economics at Portsmouth Polytechnic, UK

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October 1987 sees the launch of a new postgraduate course in fisheries economics at Portsmouth Polytechnic. The course, described in more detail below, reflects the development of research and teaching in this specialist area which has taken place at Portsmouth over several years.

Research in fisheries economics is carried out by the Marine Resources Research Unit, an interdisciplinary research group within the School of Economics. Since the Unit was established in the 1960s the nature of its work has evolved considerably. At present it has research interests which encompass the economics of fish supply, management, marketing and trade. Both individual and team research projects are undertaken, and the Unit also carries out contract research for external bodies. Research output has typically taken the form of publications, consultancy reports, and internal discussion papers.

Teaching in fisheries economics, which is also undertaken by Unit staff, has been a natural corollary of research. In the 1970s an undergraduate option in fisheries economics was introduced into two degree courses, the B.A. Economics and the B.A. Economics and Geography. This, as well as other options in natural resources such as agricultural economics, will continue to be offered to students on these degree courses for the foreseeable future.

The experience gained from teaching fisheries economics has proved a valuable stimulus to research and curriculum development. After extensive planning, a new postgraduate conversion course in fisheries economics has recently been approved by the Polytechnic. The duration will be 22 weeks full-time, starting in October 1987, and successful completion will lead to the award of a Polytechnic Certificate. The course is orientated towards fisheries in developing countries, and is made up of four major components:

- Fundamentals of Economics
- Fisheries Economics
- Information Analysis and Data Processing
- Fishing Enterprise Management

The normal entry requirement will be a first degree or graduate-equivalent professional qualification. In exceptional cases, admission to the course may be permitted to mature students who do not possess a degree but who have relevant employment experience.

As well as offering taught courses, the School of Economics can also organize research programs for suitable graduates who wish to obtain higher degrees by submission of a thesis. The School arranges for a candidate's research proposal to be registered with the Council for National Academic Awards, which is the degree-awarding body. The period of registration varies according to whether the program is full-time or part-time, and for an M.Phil or Ph.D. With some 30 members of academic staff, the range of expertise available to supervise postgraduate students is considerable, and covers the major areas of economics. Students specifically interested in fisheries economics, however, have the benefit not only of contact with specialists working in the same field but also of having access to the facilities of the Marine Resources Research Unit. These include, among other things, a reading room with a unique collection of books, journals and reprints, and also computing facilities. Research projects on fisheries economics would be supervised by a senior member of the Unit, who would maintain regular contact with the student and monitor the progress of the work.

Further details on the training and research opportunities in fisheries economics offered by Portsmouth Polytechnic can be obtained from David Whitmarsh, School of Economics, Portsmouth Polytechnic, Locksway Road, Portsmouth, UK PO4 8JF. •